## IN THE CLAIMS:

What is claimed is:

1. (Cancelled)

2. (Currently amended) The computer-implemented method of ~~claim 1,~~ claim 31, wherein the severity levels are calculated based on at least one of the number of event sets within each of the groups, the source attribute of the event sets within each of the groups, the target attribute of the event sets within each of the groups, and the event category attribute of the event sets within each of the groups.

3. (Currently amended) The computer-implemented method of ~~claim 1,~~ claim 31, wherein the events include at least one of a web server event, an electronic mail event, a Trojan horse, denial of service, a virus, a network event, an authentication failure, and an access violation.

4. (Currently amended) The computer-implemented method of ~~claim 1,~~ claim 31, further comprising:

calculating the threshold value based on at least one of the source attribute of the event sets within the group, the target attribute of the event sets within the group, the event category attribute in each event set of the group, and the number of attributes in each event set of the group that are held constant across all of the event sets in the group.

5. (Currently amended) The computer-implemented method of ~~claim 1,~~ claim 31, wherein the target attribute represents one of a computer and a collection of computers.

6. (Currently amended) The computer-implemented method of ~~claim 1,~~ claim 31, wherein the source attribute represents one of a computer and a collection of computers.

7. (Currently amended) The computer-implemented method of ~~claim 1,~~ claim 31, further comprising:

aggregating a subset of the groups into a combined group.

8-11 (Cancelled)

12. (Currently amended) The computer program product of ~~claim 11,~~ claim 34, wherein the severity levels are calculated based on at least one of the number of event sets within each of the groups, the source attribute of the event sets within each of the groups, the target attribute of the event sets within each of the groups, and the event category attribute of the event sets within each of the groups.

13. (Currently amended) The computer program product of ~~claim 11,~~ claim 34, wherein the events include at least one of a web server event, an electronic mail event, a Trojan horse, denial of service, a virus, a network event, an authentication failure, and an access violation.

14. (Currently amended) The computer program product of ~~claim 11,~~ claim 34, wherein the computer-readable instructions further include:

sixth instructions for calculating the threshold value based on at least one of the source attribute of the event sets within the group, the target attribute of the event sets within the group, the event category attribute in each event set of the group, and the number of attributes in each event set of the group that are held constant across all of the event sets in the group.

15. (Currently amended) The computer program product of ~~claim 11,~~ claim 34, wherein the target attribute represents one of a computer and a collection of computers.

16. (Currently amended) The computer program product of ~~claim 11,~~ claim 34, wherein the source attribute represents one of a computer and a collection of computers.

17. (Currently amended) The computer program product of ~~claim 11,~~ claim 34, wherein the computer-readable instructions further include:

seventh instructions for aggregating a subset of the groups into a combined group.

18-21 (Cancelled)

22. (Currently amended) The data processing system of ~~claim 21,~~ claim 37, wherein the severity levels are calculated based on at least one of the number of event sets within each of the groups, the source attribute of the event sets within each of the groups, the target attribute of the event sets within each of the groups, and the event category attribute of the event sets within each of the groups.

23. (Currently amended) The data processing system of ~~claim 21,~~ claim 37, wherein the events include at least one of a web server event, an electronic mail event, a Trojan horse, denial of service, a virus, a network event, an authentication failure, and an access violation.

24. (Currently amended) The data processing system of ~~claim 21,~~ claim 37, wherein the processing unit executes the set of instructions to perform the act of:

calculating the threshold value based on at least one of the source attribute of the event sets within the group, the target attribute of the event sets within the group, the event category attribute in each event set of the group, and the number of attributes in each event set of the group that are held constant across all of the event sets in the group.

25. (Currently amended) The data processing system of ~~claim 21,~~ claim 37, wherein the target attribute represents one of a computer and a collection of computers.

26. (Currently amended) The data processing system of ~~claim 21,~~ claim 37, wherein the source attribute represents one of a computer and a collection of computers.

27. (Currently amended) The data processing system of ~~claim 21,~~ claim 37, wherein the processing unit executes the set of instructions to perform the act of:

aggregating a subset of the groups into a combined group.

28-30 (Cancelled)

31. (Currently amended) A computer-implemented method in a data processing system for reporting security situations, comprising the computer-implemented steps of: ~~The computer-implemented method of claim 1, further comprising:~~

in a first correlation server in a hierarchy of correlation servers, logging events by storing event attributes as an event set, wherein each event set includes a source attribute, a target attribute and an event category attribute;

classifying events as groups by aggregating events with at least one attribute within the event set as an identical value;

calculating a respective severity level for each of the groups;

calculating a delta severity for each group from the respective severity level and a respective prior severity level;

for each group having a non-zero delta severity, propagating the respective delta severity to a higher-level correlation server;

receiving, in the higher-level correlation server, a plurality of delta packets from a plurality of lower-level correlation servers that include the first correlation server, wherein each delta packet contains the respective delta severity for each group of the respective lower-level correlation server that has a non-zero delta severity;

performing a first mathematical operation on the plurality of delta packets to form a new delta packet;

if the higher-level correlation server is the top level of the hierarchy of correlation servers, performing a second mathematical operation on the new delta packet and a stored severity packet to form a new severity packet; and

if the higher-level correlation server is not the top level of the hierarchy of correlation servers, propagating the new delta packet to a higher-level correlation server.

32. (Previously presented) The computer-implemented method of claim 31, wherein the first mathematical operation and the second mathematical operation are each one of addition, arithmetic mean, and geometric mean.

33. (Previously presented) The computer-implemented method of claim 31, further comprising presenting to an operator each group which has a respective severity value in the new severity packet that is greater than a respective threshold.

34. (Currently amended) A computer program product, comprising: ~~The computer program product of claim 11, further comprising instructions for:~~

a recordable-type media having computer-readable instructions including

first instructions, in a first correlation server in a hierarchy of correlation servers, for logging events by storing event attributes as an event set, wherein each event set includes a source attribute, a target attribute and an event category attribute;

second instructions for classifying events as groups by aggregating events with at least one attribute within the event set as an identical value;

third instructions for calculating a severity level for each of the groups;

fourth instructions for calculating a delta severity for each group from the respective severity level and a prior severity level; and

fifth instructions for propagating, for each group having a non-zero delta severity, the delta severity to a higher-level correlation server;

sixth instructions for receiving, in the higher-level correlation server, a plurality of delta packets from a plurality of lower-level correlation servers that include the first correlation server, wherein each delta packet contains the respective delta severity for each group of the respective lower-level correlation server that has a non-zero delta severity;

seventh instructions for performing a first mathematical operation on the plurality of delta packets to form a new delta packet;

if the data processing system is the top level of the hierarchy of servers, eighth instructions for performing a second mathematical operation on the new delta packet and a stored severity packet to form a new severity packet; and

if the data processing system is not the top level of the hierarchy of servers, ninth instructions for propagating the new delta packet to a higher-level correlation server.

35. (Previously presented) The computer program product of claim 34, wherein the first mathematical operation and the second mathematical operation are each one of addition, arithmetic mean, and geometric mean.

36. (Currently amended) The computer program product of claim 34, further comprising instructions for presenting to an operator each group that has a respective severity value in the new severity packet that is greater than a respective threshold.

37. (Currently amended) A data processing system for reporting security events, comprising: ~~The data processing system of claim 21, further comprising:~~

a first bus system;

a first memory;

a first processing unit connected as a first correlation server in a hierarchy of correlation servers, wherein the first processing unit includes at least one processor; and

a first set of instructions within the first memory,

a second bus system;

a second memory;

a second set of instructions within the second memory; and

a second processing unit connected as the higher-level correlation server;

wherein the first processing unit executes the first set of instructions to perform the acts of:

logging events by storing event attributes as an event set, wherein each event set includes a source attribute, a target attribute and an event category attribute;

classifying events as groups by aggregating events with at least one attribute within the event set as an identical value;

calculating a severity level for each of the groups;

calculating a delta severity for each group from the respective severity level and a prior severity level; and

for each group having a non-zero delta severity, propagating the delta severity to a higher-level correlation server;

wherein the second processing unit executes the second set of instructions to perform the acts of:

receiving, from the first correlation server and a third correlation server, a first delta packet and a second delta packet, wherein said first delta packet contains the respective delta severity for each group of the first correlation server that has a non-zero delta severity and the second delta packet contains a respective delta severity for each group of the third correlation server that has a non-zero delta severity;

performing a first mathematical operation on the first delta packet and the second delta packet to form a new delta packet;

if the data processing system is the top level of a hierarchy of servers, performing a second mathematical operation on the new delta packet and a stored severity packet to form a new severity packet; and

if the data processing system is not the top level of a hierarchy of servers, propagating the new delta packet to a higher-level correlation server.

38. (Previously presented) The computer program product of claim 37, wherein the first mathematical operation and the second mathematical operation are each one of addition, arithmetic mean, and geometric mean.

39. (Previously presented) The computer program product of claim 37, further comprising presenting to an operator each group which has a respective severity value in the new severity packet that is greater than a respective threshold.